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(54) **MICROELECTRODES IN AN OPHTHALMIC ELECTROCHEMICAL SENSOR**

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(57) **ABSTRACT**

An eye-mountable device includes an electrochemical sensor embedded in a polymeric material configured for mounting to a surface of an eye. The electrochemical sensor includes a working electrode, a reference electrode, and a reagent that selectively reacts with an analyte to generate a sensor measurement related to a concentration of the analyte in a fluid to which the eye-mountable device is exposed. The working electrode can have at least one dimension less than 25 micrometers. The reference electrode can have an area at least five times greater than an area of the working electrode. A portion of the polymeric material can surround the working electrode and the reference electrode such that an electrical current conveyed between the working electrode and the reference electrode is passed through the at least partially surrounding portion of the transparent polymeric material.